

Illinois Clean Air Construction Initiative

Presentation to the Air
Innovations Conference
August 24, 2005

Ron Burke
Associate Director
Illinois EPA

Presentation Outline

- Overview of the IDOT Dan Ryan Expressway Reconstruction Project
- Public Participation Process
- Description of the Illinois Clean Air Construction Initiative
- Rationale/Benefits
- Next Steps

Overview of the IDOT Dan Ryan Expressway Reconstruction Project

- One of the busiest expressways in the nation with 300,000 vehicles per day – more people than most U.S. cities!
- Surrounding communities are predominantly lower-income.
- Homes, schools and businesses located only a few feet from highway.

Overview of the IDOT Dan Ryan Expressway Reconstruction Project

- Four year project estimated to cost \$600 million dollars.
- Remove and add ramps.
- Add local lanes.
- Improve interchange with Skyway Expressway.
- Install Collector Sewers.
- Repave.
- “Pre-construction” began last year.





IDOT Public Participation Process

Community Concerns

- Air Quality/Health Effects
- Air Monitoring
- Traffic and Noise
- Construction Equipment Idling
- Property Damage/Compensation
- Hiring Residents, Local Businesses to Work on Project
- Ongoing Community Involvement
- Ramp removals.

IDOT Public Participation Process

- IDOT Convened the Environmental Health Focus Group
 - Met for 9 months beginning April 2004.
 - Physicians, health researchers, hospital administrators, Illinois EPA, Illinois DPH, American Lung Association
 - Recommendations adopted by IDOT, which are the major elements of the “Clean Air Construction Initiative”

Description of the Clean Air Construction Initiative

Emissions and Noise Control Requirements for Contractors:

- Retrofit devices and/or ultra-low sulfur diesel fuel (ULSD, 15 ppm) for off-road diesel construction vehicles over 50 horsepower.
- All off-road equipment must use at least on-road diesel fuel (500 ppm) compared to off-road diesel fuel (3400 ppm).
- Limits on construction vehicle idling and parking.
- Dust control measures.

Emissions and Noise Control Requirements for Contractors

- All contract "lettings" since June of 2004 have these requirements.
- Applies to scrapers, graders, crawlers, bulldozers, paving equipment, rollers, tractors, loaders, and backhoes.
- IDOT estimates approximately 260 pieces will use ULSD and 25-30 pieces will use retrofit devices plus on-road diesel fuel.

Emissions and Noise Control Requirements for Contractors

- IEPA gave IDOT a \$25,000 grant for a pilot retrofit project on the Kingery Expressway, prior to beginning the Dan Ryan reconstruction.
- IEPA has received a \$60,000 grant from USEPA to retrofit Dan Ryan construction equipment that are not required to adopt Clean Diesel strategies.
- \$\$ will pay for an additional 20-40 retrofits.

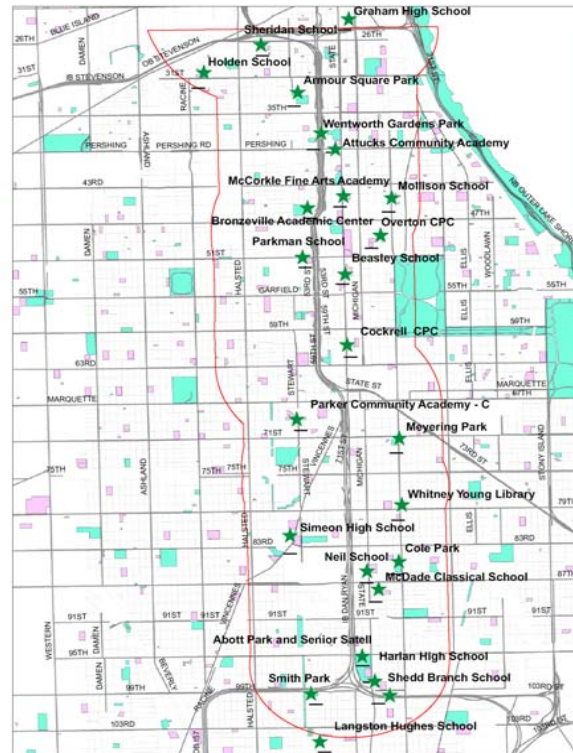
Air Quality Monitoring

- **PM-10**
- **PM 2.5**
- **Asbestos**
- **Lead**
- **PAHs (Diesel)**
- **Respirable Silica**

Air Quality Monitoring

- **IDOT consultant (EDI) operates monitors.**
- **8 Monitors, including 2 measuring PM real time.**
- **25 “Sensitive Receptor” locations (schools).**
- **Baseline (“before”) data collected.**

Dan Ryan Sensitive Receptor Locations



Illinois Department Of Transportation
Dan Ryan Expressway Reconstruction Project

Legend
 Dan Ryan Expressway 1 Mile Zone
 Sensitive Receptor Locations
 Major Streets
 Streets
 School Grounds
 Parks

0.4 0.8 1.2 1.6 2.0



**Dan Ryan Expressway
Reconstruction Project**



Air Quality Monitoring

- IEPA and IDPH developed comparison values for Respirable Silica, Lead (24 hour value), Asbestos and PAHs.
- NAAQS for PM 2.5 and PM-10.
- IDOT to implement additional mitigation strategies when PM levels exceed 80 percent of 24 hour NAAQS.

Air Quality Monitoring

- Community asked for real-time PM data. Insufficient number of real-time monitors to properly do this.
- Monitoring reports compiled every two weeks by consultant – publicly available.
- Detailed data available to public and researchers after validation by IEPA.

Air Quality Monitoring - Results

- PM levels comparable so far to regional averages – somewhat surprising given large truck traffic volumes on the Dan Ryan.
- Comparison values for other air pollutants have been exceeded a few times.

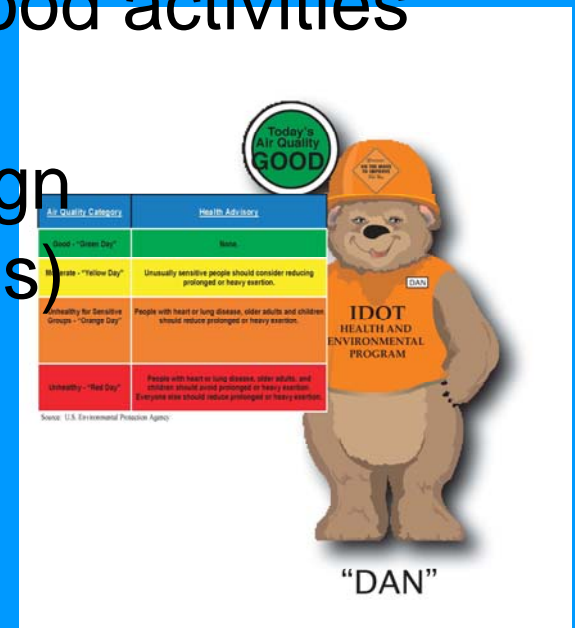
Description of the Clean Air Construction Initiative

**IDOT Outreach and Education to Communities
Near the Dan Ryan Expressway.**

- **Community Partnerships.**
- **Community Meetings, including
information on access to health care and
asthma education.**
- **Regional air quality forecast is
communicated to communities near the
Expressway.**

IDOT Outreach and Education to Communities Near the Expressway.

- “Dan” the Air Bear Campaign
 - “Dan” is the official mascot and community outreach partner for the IDOT’s health and environmental campaign.
 - Participates in local neighborhood activities and special events.
 - Collateral materials for campaign (palm cards, t-shirts, caps, pens)
 - Press appearances
 - Dan stationed along road with the air quality forecast.



Rationale/Benefits of the Clean Air Construction Initiative

- IDOT wanted to be responsive to community concerns about air quality.
- Relatively small costs compared to overall price tag of project.
- Homes and schools in close proximity to construction zone.
- Opportunity to be a national leader – one of the largest projects of its kind and the first in the Midwest.

Rationale/Benefits of the Clean Air Construction Initiative

- Addresses concerns about local air pollution levels near the construction zone.
- As clean diesel practices become more common, potential for significant regional emissions reductions.
- Monitoring data provides unique insights for regulators and researchers.

Rationale/Benefits of the Clean Air Construction Initiative

- Idling limits conserve diesel fuel, save \$\$.
- Provides valuable experience for upcoming transition to lower sulfur fuels.
- Outreach component helps communities stay informed and to access health care services.
- A model for other state and local governments.
- Good PR for State!

Next Steps

Trouble-Shooting Meeting with Contractors, ULSD Suppliers, Construction Equipment Makers

- ULSD price higher than expected? Delivery Costs? Tank Cleaning?
- Retrofit equipment costs higher than expected due to warranty requirements?
- Adequate time for installation of retrofits?
- Confusion about IDOT requirements vs. federal requirements?

Next Steps

- IDOT plans to utilize the “Clean Air Construction” approach on all urban highway projects.
- The Illinois Toll Highway Authority has decided to use the same contract language.
- Environmental Health Focus Group will meet to review results and monitoring data.
- IEPA and IDOT will continue to share contract language and “lessons learned” with local and state governments.
- Workshop for all prospective IDOT and ITHA contractors to explain requirements.

Thank You

Ron Burke
Associate Director
Illinois EPA

217-557-7826

Ron.Burke@epa.state.il.us